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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,863	06/26/2003	Bong-Hwoan Choi	1293.1758	1435

21171 7590 02/22/2006

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EXAMINER

LAMB, CHRISTOPHER RAY

ART UNIT PAPER NUMBER

2656

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



<b>Office Action Summary</b>	Application No. 10/603,863	Applicant(s) CHOI, BONG-HWOAN	
	Examiner Christopher R. Lamb	Art Unit 2656	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |



## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

2. Claim 1 objected to because of the following informalities: the phrase "the size of which has been determined" is confusing. The examiner understands this to mean that the size of the amount of data recorded on the optical disc has been determined, but it could be taken to mean that the size of the optical disc has already been determined, which would contradict the purpose of the claim, a method to determine the size of the disc. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Son et al. (U.S. Patent 5,644,561).



Son et al. discloses a method of determining a diameter of an optical disc in an optical disc drive (Fig. 4), comprising: operating the optical disc drive (Fig. 4: step 56); sensing a weight of the optical disc during operation of the disc drive (Fig. 4: step 57; Son notes that the speed is used to determine the weight in the abstract, lines 23-25); and determining the diameter of the optical disc from the weight of the optical disc (Fig. 4: step 57 leads to step 58 or 60; abstract).

5. Claims 24-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al. (U.S. Patent Application Publication 2003/0174617).

Regarding claim 24, Kim et al. discloses a method of identifying a type of an optical disc in a disc drive (abstract, lines 1-2), comprising: moving a focus lens through an operating range (Kim checks for a focus error system, paragraph 34; moving the focus lens is inherent to any focusing system); measuring a focus error while moving the focus lens (paragraph 34); comparing a peak-to-peak value of the measured focus error to a reference value (paragraph 34; that it is a peak-to-peak value is inherent); and determining that the optical disc is a 12 cm standard disc if the peak-to-peak value is greater than the reference value (paragraph 35) or that the optical disc is an 8 cm fashion disc if the peak-to-peak value is less than the reference value (paragraph 35).

Regarding claim 25, Kim et al. discloses operating the disc drive according to the determined type of the optical disc (paragraph 72).

Regarding claim 26, Kim et al. discloses moving a pickup to a periphery area of the optical disc to measure the focus error (position PB in Fig. 3).



Art Unit: 2656

Regarding claim 27, that moving the focus lens through the operating range comprises moving the focus lens up and down is inherent to Kim et al. (any focusing system involves moving the lens up and down).

Regarding claim 28, Kim et al. discloses adjusting operating parameters of the disc drive consistent with the 8 cm fashion disc (in paragraph 72, Kim notes adjusting to parameters including size; in paragraph 35 Kim notes the size could be 8 cm).

Regarding claim 29, Kim et al. discloses storing operating parameters to drive the 8 cm fashion disc (the parameters are pre-calculated, paragraph 77, and so must be stored); wherein the adjusting the operating parameters comprises adjusting the operating parameters based on the stored operating parameters (paragraph 77).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 -16 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto et al. (U.S. Patent 5,696,744).

Regarding claim 1, Okamoto discloses a method of detecting an optical disc (the "fourth method" disclosed as prior art: column 1, lines 55-56), comprising:

detecting a size of the optical disc inserted in an optical disc drive by sensing a weight of the optical disc and driving the optical disc drive (column 1, lines 52-54: the weight determines the activation time noted by Okamoto);



determining the size of the optical disc by detecting an amount of data recorded on the optical disc from a lead-in area of the optical disc (column 1, lines 47-50);

This method described by Okamoto does not include "if the amount of data recorded on the optical disc, the size of which has been determined, is below a reference value, moving a pickup to a periphery area and measuring a focus error; and if the measured focus error is above a constant value, detecting the optical disc as a certain optical disc type and limiting the operational speed level of the optical disc drive."

Okamoto discloses that this method fails when a short program is recorded on a long disc (column 1, line 65 to column 2, line 11).

Okamoto discloses moving a pickup to a periphery area and measuring a focus error, and if the measured focus error is above a constant value, detecting the optical disc as a certain optical disc type (column 3, lines 54-61; Okamoto's "whether focus control is performed or not" is equivalent to comparing the measured focus error to a constant value) and limiting the operational speed level of the optical disk drive (column 1, lines 29-37, where adjusting the gain is comparable to limiting the operational speed level).

It would have been obvious to one of ordinary skill in the art at the time of the invention to take the prior art methods disclosed by Okamoto and modify them as taught by Okamoto to include if the amount of data recorded on the optical disc is below a reference value, moving a pickup to a periphery area and measuring a focus error, and



Art Unit: 2656

if the measured focus error is above a constant value, detecting the optical disc as a certain optical disc type and limiting the operational speed level of the optical disc drive.

The motivation would have been to improve the reliability of the method (Okamoto discloses that the method fails when a short program is recorded on a long disc; thus, when a short recording time is detected, it would have been obvious to add a backup method such as the one proposed by Okamoto).

Regarding claim 2, Okamoto discloses wherein the optical disc detecting according to the weight thereof is either a standard disc having a diameter of 12 cm or a fashion disc having a diameter of 9 cm (column 1, lines 16-17).

Regarding claim 3, Okamoto discloses wherein the optical disc determined according to the amount of data recorded on the optical disc is any one disc among a standard disc having a diameter of 12 cm on which data is fully recorded, a standard disc having a diameter of 12 cm on which data is partially recorded, and a fashion disc having a diameter of 8 cm (that it can be 12 cm or 8 cm is disclosed in column 1, lines 16-17; that it might be a larger disc in which data is partially recorded is disclosed in column 1, lines 64-66).

Regarding claim 4, in Okamoto the certain optical disc type is a fashion disc having a diameter of 8 cm (column 3, lines 54-62).

Regarding claim 5, in Okamoto if the measured focus error is below the constant value, the optical disc is detected as a standard disc having a diameter of 12 cm (column 3, lines 54-62) on which data is partially recorded (since the modified method of



Art Unit: 2656

Okamoto first checks the length of recorded data, it can distinguish between a partially recorded and fully recorded 12 cm disc).

Regarding claims 6-10, these are apparatus claims corresponding to the method of claims 1-5, and are thus rejected for the same reasons.

Regarding claims 11-14, if the disc measured by the method of Okamoto is full, the amount of data recorded on the optical disc is equal to the data recording capacity of the optical disk. Thus these claims are rejected for the same reason as the previous claims.

Regarding claim 15, Okamoto discloses a pickup that reads signals from the optical disc to produce an electrical signal (3), a wave filtering rectifier that adds or subtracts the electrical signals to output a focus error signal (5), and wherein the controller determines that the optical disc is a first type if a measured focus error from the focus error signal is above a constant value (column 3, lines 54-62).

Regarding claim 16, Okamoto discloses a sled motor (4a) that drives the pickup, a spindle motor that rotates the optical disc (2), a driver that drives the sled motor and spindle motor (4c and 11), and a servo that controls the operations of the pickup and the driver (9).

Regarding claims 18 and 19, if the disc measured by the method of Okamoto is full, the amount of data recorded on the optical disc is equal to the data recording capacity of the optical disk. Thus these claims are rejected for the same reason as the previous claims.



Art Unit: 2656

8. Claims 20-21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Son et al. in view of Yamada et al. (U.S. Patent 5,831,952).

Regarding claim 20, Son et al. discloses a method of identifying a type of an optical disc inserted into a disc drive, comprising identifying the optical disc as a fashion disc having a diameter of 8 cm or as a standard disc having a diameter of 12 cm based on a weight of the optical disc (abstract).

Son et al. does not disclose "identifying the optical disc as a CD or as a DVD based on a thickness of the optical disc."

Yamada et al. discloses identifying the optical disc as a CD or as a DVD based on a thickness of the optical disc (abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Son et al. the step of identifying the optical disc as a CD or as a DVD based on a thickness of the optical disc, as taught by Yamada et al.

The motivation would have been to expand the capability of the disc drive discerning method of Son et al.

Regarding claim 21, Son discloses loading the optical disc on a tray (that it is loaded is disclosed in column 1, line 22). Closing the tray to operate the disc drive is not specifically mentioned, but it is obvious.

Regarding claim 23, Son discloses adjusting parameters of the disc drive based on the type of optical disc (column 1, lines 29-32).

9. Claim 22 rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto as applied to claims 1-16 and 18-19 above, and further in view of Yamada et al.



Art Unit: 2656

Okamoto discloses a method of identifying a type of optical disc as discussed above.

Okamoto does not disclose "identifying the optical disc as a CD or as a DVD based on a thickness of the optical disc."

Yamada et al. discloses identifying the optical disc as a CD or as a DVD based on a thickness of the optical disc (abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method of Okamoto the step of identifying the optical disc as a CD or as a DVD based on a thickness of the optical disc, as taught by Yamada et al.

The motivation would have been to expand the capability of the disc drive discerning method of Okamoto.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Otsubo (U.S. Patent 5,172,354), Kamatani (U.S. Patent 5,587,981), Iida et al. (U.S. Patent Application Publication 2002/0021637), Miyake et al. (U.S. Patent Application Publication 2001/0053114).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

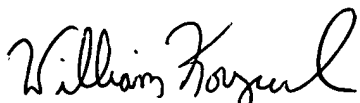


Art Unit: 2656

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CRL 2/16/06

  
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